



Missouri Department of Health and Senior Services

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**SEROLOGICAL TESTING FOR WEST NILE VIRUS AND OTHER
ARTHROPOD-BORNE VIRUSES (ARBOVIRUSES)**
Updated July 2004

AVAILABILITY OF VIRAL SEROLOGY TESTS

Rapid identification and reporting of *active* human West Nile virus (WNV) infections provides state and local public health agencies with timely information on the location and prevalence of the virus. For this reason, the State Public Health Laboratory treats all specimens with the same priority.

Serologic testing is advised for the following:

Mild Infection – West Nile fever (20% of infected persons)

- Fever, headache, malaise, myalgia
- Rash, lymphadenopathy
- Nausea, vomiting, anorexia
- Eye pain

Severe Infection – Encephalitis/meningitis (about 1 in 150 infected persons)

- Fever, weakness, gastrointestinal symptoms, change in mental status
- Maculopapular or morbilliform rash on neck, trunk, arms, or legs
- Severe muscle weakness and flaccid paralysis; ataxia and extrapyramidal signs
- Cranial nerve abnormalities, myelitis, optic neuritis, polyradiculitis, seizures

Serologic testing is not necessary for asymptomatic persons.

Because most infected persons are asymptomatic and because IgM antibody may persist for one year or longer, Missouri residents may have persistent IgM antibody from a previous infection that is unrelated to their current clinical illness. Definitive diagnosis often requires analysis of a convalescent serum specimen.

WNV has the same seasonal pattern as enteroviruses, and is also associated with neurologic signs and symptoms of aseptic meningitis. For this reason, diagnostic testing of specimens from patients with aseptic meningitis should include testing for enteroviruses, even during a documented WNV outbreak.

The U. S. Centers for Disease Control and Prevention's publication *West Nile Virus (WNV) Infection: Information for Clinicians* (August, 2002), which outlines clinical features, diagnosis, reporting, laboratory testing, and treatment of West Nile virus infection, is available at:

http://www.cdc.gov/ncidod/dvbid/westnile/resources/fact_sheet_clinician_082102_0802.pdf.

There is no charge for arboviral testing through the State Public Health Laboratory.

STATE PUBLIC HEALTH LABORATORY ARBOVIRAL SEROLOGY TESTS

- IgM antibody detection on single serum or acute CSF
- IgG antibody detection on paired sera

Arboviral testing will be conducted on specimens to detect antigens of:

- Flavivirus Group
 - West Nile virus (WNV)
 - St. Louis encephalitis (SLE) virus
- Western equine encephalitis (WEE) virus
- LaCrosse/California (LAC) encephalitis virus
- Eastern equine encephalitis (EEE) virus

SPECIMEN COLLECTION

- For IgM arbovirus antibody panel, collect acute serum 0 to 10 days after onset of symptoms.
- Collect CSF as soon as possible after onset of symptoms.
- For IgG arbovirus antibody panel, collect acute serum 0 to 10 days after onset of symptoms and collect convalescent serum 2-3 weeks after acute serum was collected.
- Collect serum in a red-top vacutainer tube. It is best to send only serum and not whole blood.
- Whole blood may be sent if no method is available for removing the serum.
- At least 0.5 ml of serum and 1.0 ml of CSF is required for testing.

SPECIMEN SUBMISSION

A completed Missouri Department of Health and Senior Services Lab Form MO580-0762 (12-99) (Viral Serology Test Request) (http://www.dhss.mo.gov/Lab/forms/arbovirus_fax_form.pdf) must accompany all specimens.

IMPORTANT: Testing will not be initiated without the inclusion of the following:

- Patient's name on submission form and specimen.
- Date of onset of symptoms.
- Specimen collection date.
- Pertinent travel history (three months prior to onset of symptoms).

Additional details on specimen collection, shipping, and test result interpretation are posted at:
<http://www.dhss.mo.gov/Lab/VirologyWNV.htm>

VIRAL SEROLOGY TEST REQUEST *Must fill in Acute OR Convalescent date + onset*

1. Please provide the patient information requested.		DATE SPECIMEN COLLECTED	DATE RECEIVED	STATE LAB SERIAL NO.
2. Type or print with pressure.		ACUTE 01-01-03	ACUTE	
3. Send all copies of this form with specimen to STATE PUBLIC HEALTH LABORATORY.		OR CONV 01-22-03	CONV	
PATIENT NAME (LAST, FIRST)		ONSET 01-01-03	DATE CONV. REQ'D	
Doe, Jane				
ADDRESS (CITY, STATE, ZIP CODE)		RUBEOLA/RUBELLA VACCINATION HISTORY	FOR STATE HEALTH LAB USE ONLY	
123 Main St.			DATE REPORTED	
Anytown, MO 65000			LABORATORY REPORT	
BIRTHDATE	SEX		RUBEOLA EIA (IgM): <input type="checkbox"/> Positive <input checked="" type="checkbox"/> Negative <input type="checkbox"/> Equivocal	
01-01-80	<input checked="" type="checkbox"/> Female <input type="checkbox"/> Male		RUBELLA EIA (IgM): <input type="checkbox"/> Positive <input type="checkbox"/> Negative <input type="checkbox"/> Equivocal	
RACE		TEST REQUESTED:	LAB USE ONLY	
<input type="checkbox"/> W <input type="checkbox"/> B <input type="checkbox"/> A/P <input type="checkbox"/> A/W <input checked="" type="checkbox"/> O		Please indicate below see back of form for test description.		
MEDICAID NUMBER		<input type="checkbox"/> Measles (Rubeola) IgM EIA		
11231123112		<input type="checkbox"/> Rubella IgM EIA		
The following information MUST BE PROVIDED before testing can be performed:		<input checked="" type="checkbox"/> Arbovirus		
PERSON'S NAME AUTHORIZED TO RECEIVE PHONE RESULTS		<input type="checkbox"/> Rickettsial Panel		
Joe Smith, R.N.		<input type="checkbox"/> Other: CDC Referrals		
FACILITY/LAB PHONE NO.				
573-555-5555				
FACILITY/LABORATORY NAME				
TestLab				
FACILITY/LABORATORY STREET/MAILING ADDRESS				
P.O. Box 999				
FACILITY/LABORATORY CITY, STATE & ZIP CODE				
Anytown MO 65000				

MISSOURI DEPARTMENT OF HEALTH
 STATE PUBLIC HEALTH LABORATORY
 307 W. McCARTY PO BOX 570
 JEFFERSON CITY MO 65101

EOAA EMPLOYER
 Services Provided on a non-Discriminatory Basis

MO 580-0762 (12-99) LAB-67